AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application. Please cancel claims 48-66 without prejudice or disclaimer and amend claim 47, as follows:

Claims 1-33 (Canceled).

34. (Previously Presented) A method of moulding and curing tyres for vehicle wheels, comprising the steps of:

disposing a tyre being processed on a toroidal support, wherein an outer surface of the toroidal support substantially mates with an inner surface of the tyre;

enclosing the tyre and the toroidal support inside a moulding cavity defined in a vulcanization mould, the moulding cavity having walls, wherein a shape of the moulding cavity walls matches an outer surface of the tyre when vulcanization is completed;

pressing the outer surface of the tyre against the moulding cavity walls; and

administering heat to the tyre to cause molecular crosslinking of the tyre;

wherein the pressing step comprises the steps of:

compressing side portions of the tyre between the moulding cavity walls and the outer surface of the toroidal support, concurrently with the enclosing step, wherein the side portions extend from inner circumferential edges of the tyre to transition regions between sidewalls, located at respective side portions, and a tread band disposed at a radially-outer portion of the tyre, delimited between the side portions; and

expanding a radially-outer portion of the tyre to bring the radially-outer portion of the tyre against the walls of the moulding cavity, said radially-outer portion being delimited between the side portions,

wherein said expanding step includes a step of admitting a fluid under pressure, and, before the expanding step, admitting a working fluid between the outer surface of the toroidal support and the inner surface of the tyre while the mould is closed, wherein the working fluid is under a lower pressure than that of the fluid under pressure admitted during the expanding step.

35. (Previously Presented) The method of claim 34, wherein the fluid under pressure is admitted to at least one diffusion interspace created between the outer surface of the toroidal support and the inner surface of the tyre.

36. (Previously Presented) The method of claim 35, wherein, before admission of the fluid under pressure, the inner surface of the tyre substantially adheres, over a whole extension of the inner surface of the tyre, to the outer surface of the toroidal support, and wherein the diffusion interspace is created during tyre expansion.

37. (Previously Presented) The method of claim 34, wherein admission of the fluid under pressure takes place through feeding channels formed in the toroidal support and opening onto the outer surface of the toroidal support.

Claim 38 (Canceled).

39. (Previously Presented) The method of claim 35, wherein heat administration takes place by admission of a heating fluid to the diffusion interspace, and wherein the heating fluid comprises a same fluid under pressure as employed for carrying out the pressing step.

40. (Previously Presented) The method of claim 35, wherein the fluid under pressure is introduced into an upper portion of the moulding cavity and guided along an inner surface of the toroidal support towards a lower portion of the moulding cavity.

41. (Previously Presented) The method of claim 40, further comprising a step of drawing the fluid under pressure out of the lower portion of the moulding cavity, carried out concurrently with introducing the fluid under pressure, to create a pressurized fluid stream along the inner surface of the toroidal support and the diffusion interspace.

42. (Previously Presented) The method of claim 40, wherein a rotational movement around a geometric axis of the toroidal support is imparted to the fluid under pressure introduced into the moulding cavity.

43. (Previously Presented) The method of claim 35, wherein the diffusion interspace has an extension between 3 mm and 14 mm, measured between the inner surface of the tyre and the outer surface of the toroidal support, at least at an equatorial plane of the tyre.

44. (Previously Presented) The method of claim 34, wherein the expanding step involves an increase in the tyre circumference between 1% and 3.5%, measured at an equatorial plane of the tyre.

45. (Previously Presented) The method of claim 34, wherein the step of disposing the tyre on the toroidal support is carried out by directly manufacturing the tyre on the toroidal support.

46. (Previously Presented) The method of claim 35, wherein, before admission of the fluid under pressure, a treatment of the inner surface of the tyre is carried out to prevent permeation of the fluid under pressure through an elastomer material forming the tyre.

47. (Currently Amended) The method of claim 35, wherein a prevulcanized liner is directly formed on the toroidal support during a preliminary step to prevent permeation of the [[first]] fluid under pressure through an elastomer material forming the tyre.

Claims 48-66 (Canceled).